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Applicant(s): Marlyn J. ANDERSON et al.
Serial No.: 09/826,394
Filed: 03 April 2001
For: LOW POWER PORTABLE COMMUNICATION SYSTEM WITH WIRELESS RECEIVER AND METHODS REGARDING SAME

Remarks

The Office Action mailed 5 April 2005 has been received and reviewed. No claims have been amended, cancelled, or added. Therefore, the pending claims are claims 1-78. Reconsideration and withdrawal of the rejections are respectfully requested in view of the remarks provided herein.

(Supplemental) Information Disclosure Statements

The initialed 1449 form returned with the Office Action dated 05 April 2005, included the Examiner's request for copies of the four "Other Documents" as listed. For the Examiner's convenience, copies of all four documents have been enclosed herewith, along with a copy of the 1449 form (Exhibit A) for the Examiner's initials. Applicants respectfully request that the Examiner consider the documents as listed on the 1449 form (Exhibit A) and return the Examiner initialed 1449 form with the next official communication.

Also included is a Supplemental Information Disclosure Statement and related 1449 form for the Examiner's consideration. Again, Applicants respectfully request that the Examiner consider the documents as listed on the 1449 form and return the Examiner initialed 1449 form with the next official communication.

The 35 U.S.C. §103 Rejection

The Examiner rejected claims 1-10, 12, 14-22, 24-55, and 57-78 under 35 U.S.C. §103 as being unpatentable over May (U.S. Patent No. 5,446,783 A) in view of Rybicki et al. (U.S. Patent No. 6,151,149) and Ruppert et al. (U.S. Patent No. 6,236,969 B1) and Pieterse et al. (U.S. Patent No. 5,714,741 A) and Weatherhill (U.S. Patent No. 5,881,149). Applicants respectfully traverse the Examiner's rejection.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the

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knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art references must teach or suggest all the claim limitations. The teaching or suggestion to make the combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *See* M.P.E.P. § 2143.

May (U.S. Patent No. 5,446,783) describes a battery pack that is removably mounted on the back of a cellular phone. The battery pack contains an infrared port 51 for transmitting infrared information between the cellular phone and a computer (i.e., capable of sending and/or receiving infrared signals). A device interface 25 and passthru device interface 55 are connected to the infrared convertor 60 which converts electrical information to infrared information for transmission between the cellular phone and the computer via the infrared port 51. The passthru device interface 55 "allows conventional cellular phone accessories, such as a "hands free" kit, external antenna, external power, etc., to continue to work with the cellular phone 40." (See column 3, lines 1-20)

Rybicki et al. (U.S. Patent No. 6,151,149) describes various ways of encoding pulses, such as by pulse positioning modulation, pulse pattern modulation, and/or pulse amplitude modulation.

Ruppert et al. (U.S. Patent No. 6,236,969 B1) describes a telephone headset 10 that "further includes an ear speaker 20 that is engaged within the mouthpiece 16 at the opposite end from the microphone 18. An ear cushion 21 is provided so that the microphone can be supported and seated against the ear of the user. The headband 12 is provided in adjustable sections. The band includes a fixed section 12a that is attached to the electronics housing 14. A strap 12b extends from the fixed section and is adjustably engaged by a movable section 12c. In this respect, the headband 12 can be of a conventional design to permit adjustment to accommodate the head of the user. The movable section 12c can be provided with a counterweight at its free end to balance the weight of the headset components on the user's head." (Column 4, lines 10-22) As described at column 6, line 57 through column 7, line 21, a base unit 70 that can operate

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within a telephone system, includes an I/R interface 88 that can transmit an infrared signal to the telephone headset 10. The headset can be provided with a corresponding I/R interface 89, located on the underside of the mouth piece 16. Circuitry within the headphone control electronics component 32 can be used to receive and condition signals transmitted via the I/R interfaces 88 and 89. Various I/R communication configurations are described.

Pieterse et al. (U.S. Patent No. 5,714,741 A) describes "a housing 2, a microphone 3, a loudspeaker 4, a first LED 5, a second LED 6, and a control button 7. In the embodiment shown, the housing 2 is composed of two parts 2a and 2b, which are interconnected by means of a hinge 10. In the housing 2 (part 2a) a slot 8 is recessed for inserting an IC card 11. (Column 4, 38-43) As described in column 2, lines 60-65, a device provides a means for exchanging data between the IC card and a remote terminal via a communication apparatus.

Weatherill (U.S. Patent No. 5,881,149 A) describes a portable communications device with a wireless transmitter and detachable earpiece that includes a wireless receiver. The detachable earpiece is shown in Figure 1A as a "moulded plastic main body 4 which includes a shaped portion 6 which defines a slot 8 between the portion 6 and the body 4. The slot 8 and portion 6 are shaped to allow the part to be placed and retained on a persons ear. Within the body 4 there is provided a speaker 10 for the playing of information into the persons ear . . . when a message is received by the signal receiver with the part either from another part of the device or from a point remote to the person wearing the part." (See column 4, line 58 to column 5, line 3).

As described below with respect to almost all of the independent claims, the references cited by the Examiner do not teach or suggest all the claim limitations of such independent claims. Therefore, such claims are not obvious in view of such references.

Further, there is no suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to combine the reference teachings of all of the cited references so as to arrive at the claimed invention. Particularly, there

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is nothing that would motivate one skilled in the art to modify May with the teachings of the other 4 cited references so as to arrive at the present invention.

For example, May describes a battery pack that is removably mounted on the back of a cellular phone. The battery pack contains an infrared port 51 for transmitting infrared information between the cellular phone and a computer (i.e., capable of sending and/or receiving infrared signals). A device interface 25 and passthru device interface 55 are connected to the infrared convertor 60 which converts electrical information to infrared information for transmission between the cellular phone and the computer via the infrared port 51. The passthru device interface 55 "allows conventional cellular phone accessories, such as a "hands free" kit, external antenna, external power, etc., to continue to work with the cellular phone 40." (See column 3, lines 1-20) The functions and configuration of the cellular phone of May are quite different than a receiver that is to be self supported by the ear of a user, or a transmitter that is removably coupled from a cellular phone, so as to, for example, permit hands free communication between a phone and the receiver, as described in many of the pending claims. Rather, as stated in May, passthru device interface 55 "allows conventional cellular phone accessories, such as a "hands free" kit to work with the cellular phone 40. In other words, the device interface of May does not itself provide for hands free communication, just communication of information via infrared transmission between the cellular phone and a computer.

No wireless communication from the cellular phone to a receiver supported by the ear of a user is described by May. This is clearly recognized by the Examiner in the Office Action which has acknowledged that May clearly is lacking a substantial number of elements in the pending claims, including, for example, a microphone coupled to the at least one audio port of the transmitter apparatus and operable to generate an audio signal from received sound input of the user; that the audio signal generated from received sound input of the user (e.g., someone talking hands-free in a car) is provided to the audio port of the communication apparatus via the audio port of the transmitter apparatus; a transmitter housing that encloses the modulation

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circuitry and the microphone that is configured to be removably coupled onto the communication apparatus; a receiver apparatus that includes a detection device, a speaker, demodulation circuitry; and a receiver housing enclosing the speaker and the demodulation circuitry; or a receiver housing that is formed to be self-supported by the ear of the user.

Yet, the Examiner continues to indicate that motivation and suggestion exists to combine **all** of the cited references. Applicants traverse such allegation and set forth that May, which describes an infrared communication technique between a cellular phone and a computer, would not be modified as alleged by the Examiner to include bits and pieces from **four** (4) other references to add the functionality of a receiver that is to be self supported by the ear of a user, or a transmitter that is removably coupled onto a communication device (e.g., a cellular phone) so as to, for example, permit hands free communication between a cellular phone and the receiver supported on the ear of the user by employing certain modulation techniques, as described in many of the pending claims. May does not even contemplate such a communication process between a removable transmitter and an ear supported receiver (e.g., an infrared receiver). In other words, clearly, the claimed invention is patentable over the cited references for lack of suggestion and motivation as well as for failing to describe all the claim elements.

The Examiner's citation and combination of **five** (5) references in one or more of the claim rejections along with the lack of motivation clearly shows that the Examiner is doing nothing more than performing improper hindsight reconstruction of the claimed invention. The teaching or suggestion to make the combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. To combine the teachings of **all** the references as alleged by the Examiner could hardly be expected to reasonably succeed. For example, the configuration and functionality of an ear supported receiver (e.g., an infrared receiver) as described in many of the pending claims (e.g., using the modulation techniques described therein, using particular structures, etc.) is no easy task to design. This is particularly the case when low power is required to maintain a small battery size and lengthen the life of the battery as well. The 5 references cited by the Examiner, and particularly when May (e.g., a

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reference that does not even include a wireless receiver) is alleged to be modified, could not have given any person skilled in the art a reasonable expectation that a combination of such references would result in success.

Generally, for the above reasons, the present invention as described in the pending claims are not obvious in view of the 5 references cited by the Examiner. Further, the claims are also traversed in detail in the comments below.

Claims 1 and 35

Claim 1 recites a portable communication system for use by a user with a communication apparatus having an audio port (e.g., a speaker/microphone jack). The system includes an infrared transmitter apparatus that includes at least one audio port configured to receive an audio signal representative of received audio input from the communication apparatus, at least one infrared light emitting device, modulation circuitry, and a microphone coupled to the at least one audio port of the infrared transmitter apparatus and operable to generate an audio signal from received sound input of the user. The audio signal generated from received sound input of the user (e.g., someone talking hands-free in a car) is provided to the audio port of the communication apparatus via the audio port of the infrared transmitter apparatus. A transmitter housing is provided that encloses the modulation circuitry and the microphone and upon which the at least one infrared light emitting device is mounted, and further that is configured to be removably coupled to the communication apparatus.

Further, the system recited in claim 1 includes an infrared receiver apparatus that includes an infrared light detection device, a speaker, demodulation circuitry operable to convert the one or more electric signals representative of the detected infrared pulses to an audio signal to power the speaker to produce a sound output, and a receiver housing enclosing the speaker and the demodulation circuitry and upon which the infrared light detection device is mounted. The receiver housing is formed to be self-supported by the ear of the user.

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Claim 35 includes similar components, but is not limited to infrared components.

The references cited do not teach or suggest all the limitations recited in claims 1 and 35. For example, as acknowledged by the Examiner, May does not teach or suggest a microphone coupled to the at least one audio port of the transmitter apparatus and operable to generate an audio signal from received sound input of the user. Further, as acknowledged by the Examiner, May does not describe that the audio signal generated from received sound input of the user (e.g., someone talking hands-free in a car) is provided to the audio port of the communication apparatus via the audio port of the transmitter apparatus. Yet further, as acknowledged by the Examiner, May does not teach or suggest a transmitter housing that encloses the modulation circuitry and the microphone, and which is configured to be removably coupled to the communication apparatus. Yet further, as acknowledged by the Examiner, May does not teach or suggest a receiver apparatus that includes a detection device, a speaker, demodulation circuitry, and a receiver housing enclosing the speaker and the demodulation circuitry; wherein the receiver housing is formed to be self-supported by the ear of the user.

The Examiner alleges that Ruppert et al. describes "a microphone (Fig. 1#18) coupled to the at least one audio port of the infrared transmitter apparatus and operable to generate an audio signal from received sound input of the user, wherein the audio signal generated from received sound input of the user is provided to the audio port of the communication apparatus via the audio port of the infrared transmitter apparatus." However, Ruppert et al. does not describe a microphone in a transmitter apparatus that has an audio port connected to an audio port of the communication apparatus (e.g., a phone) so the audio signal generated from received sound input of the user is provided to the audio port of the communication apparatus via the audio port of the transmitter apparatus. Rather, Ruppert et al. teaches a microphone that is part of the receiver/transmitter headset and not a transmitter apparatus that is removably coupled to the communication apparatus (e.g., phone). As such, there is no communication from the microphone to the audio port of the transmitter apparatus to the audio port of the communication apparatus to which it is coupled. The most that Ruppert et al. teaches is the use of a microphone

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in a receiver/transmitter headset and/or a microphone in a base station. Ruppert et al. does not teach or suggest the use of a microphone in a transmitter apparatus that is removably coupled to the communication apparatus as described according to the present invention.

The Examiner further alleges that Pieterse et al. discloses "a removably coupled transmitter (2a of Figure 3) onto the communication apparatus." However, Pieterse et al. does not teach or suggest such a removably coupled transmitter. Pieterse et al. only discloses a device that provides a means for exchanging data between the IC card and a remote terminal via a communication apparatus. It is unclear which portions of the Figure 3 that the Examiner asserts is removably coupling a transmitter to the communication apparatus. Applicants continue to assert that this element is not shown by Pieterse et al. If the Examiner can, with more specificity, show otherwise, Applicants will provide a response to such a more detailed rejection.

Neither Rybicki et al., Weatherill, nor the other references cited, do anything to cure the lack of teaching or suggestion of the missing elements.

Further, there is no suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to combine the reference teachings of all of the cited references so as to arrive at the claimed invention. Particularly, there is nothing that would motivate one skilled in the art to modify May with the teachings of the other 4 cited references so as to arrive at the present invention described in claims 1 and 35.

For example, as described above, May describes a battery pack that is removably mounted on the back of a cellular phone. The battery pack contains an infrared port 51 for transmitting infrared information between the cellular phone and a computer (i.e., capable of sending and/or receiving infrared signals). A device interface 25 and passthru device interface 55 are connected to the infrared convertor 60 which converts electrical information to infrared information for transmission between the cellular phone and the computer via the infrared port 51. The passthru device interface 55 "allows conventional cellular phone accessories, such as a "hands free" kit, external antenna, external power, etc., to continue to work with the cellular phone 40." (See column 3, lines 1-20) The functions and configuration of the cellular phone of

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May are quite different than a receiver that is to be self supported by the ear of a user, or a transmitter that is removably coupled from a cellular phone, so as to, for example, permit hands free communication between a communication apparatus (e.g., a phone) and the receiver. Rather, as stated in May, passthru device interface 55 "allows conventional cellular phone accessories, such as a "hands free" kit to work with the cellular phone 40. In other words, the device interface of May does not itself provide for hands free communication, just communication of information via infrared transmission between the cellular phone and a computer.

No wireless communication from the cellular phone to a receiver supported by the ear of a user is described by May. This is clearly recognized by the Examiner in the Office Action which has acknowledged that May clearly is lacking a substantial number of elements in the pending claims, including, for example, lacking a microphone coupled to the at least one audio port of the transmitter apparatus and operable to generate an audio signal from received sound input of the user; lacking a teaching that the audio signal generated from received sound input of the user (e.g., someone talking hands-free in a car) is provided to the audio port of the communication apparatus via the audio port of the transmitter apparatus; lacking a transmitter housing that encloses the modulation circuitry and the microphone that is configured to be removably coupled onto the communication apparatus; lacking a receiver apparatus that includes a detection device, a speaker, demodulation circuitry; lacking a receiver housing enclosing the speaker and the demodulation circuitry; and lacking a receiver housing that is formed to be self-supported by the ear of the user.

Yet, the Examiner continues to indicate that motivation and suggestion exists between all of the cited references such that they would be combined. Applicants traverse such allegation and set forth that May, which describes an infrared communication technique between a cellular phone and a computer, would not be modified as alleged by the Examiner to include bits and pieces from **four** (4) other references that would incorporate functional components into May such as a receiver that is to be self supported by the ear of a user, or a transmitter that is

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removably coupled from a communication apparatus (e.g., a cellular phone) so as to, for example, permit hands free communication between the communication apparatus (e.g., a cellular phone) and the receiver supported on the ear of the user. There is no reason for modifying May in such a manner when May has no intention of ever providing the functionality described in the pending claims. Clearly, the claimed invention is patentable over the cited references for lack of suggestion and motivation, as well as for failing to describe all the claim elements.

For at least the above reasons, claims 1 and 35 are not obvious in view of the cited references. Further, as claims 2-16 and 36-44 depend on respective independent claims 1 and 35, either directly or indirectly, they include the limitations thereof. As such, these claims are also not obvious over the cited references for the same reasons as provided above and by reason of their own limitations.

Claims 17, 29, and 51

Claim 17 recites a transmitter apparatus for use by a user with a communication apparatus (e.g., a phone) having an audio port. The apparatus includes at least one audio port configured to receive an audio signal representative of received audio input from the communication apparatus, modulation circuitry, and a microphone coupled to the at least one audio port of the transmitter apparatus and operable to generate an audio signal from received sound input of the user. The audio signal generated from received sound input of the user is provided to the audio port of the communication apparatus via the audio port of the transmitter apparatus. Further, the apparatus includes a transmitter housing enclosing the modulation circuitry and the microphone. The transmitter housing is of a size smaller than the communication apparatus and configured to be removably coupled onto the communication apparatus.

Claims 29 and 51 include similar components. Certain of the claims include infrared limitations, while others do not.

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The references cited do not teach or suggest all the limitations recited in claims 17, 29, and 51. For example, as acknowledged by the Examiner, May does not teach or suggest a microphone coupled to the at least one audio port of the transmitter apparatus and operable to generate an audio signal from received sound input of the user. Further, as acknowledged by the Examiner, May does not describe that the audio signal generated from received sound input of the user (e.g., someone talking hands-free in a car) is provided to the audio port of the communication apparatus via the audio port of the transmitter apparatus. Yet further, as acknowledged by the Examiner, May does not teach or suggest a transmitter housing that encloses the modulation circuitry and the microphone; and which same transmitter housing is configured to be removably coupled onto the communication apparatus (e.g., May describes a removable battery pack that does not include enclose a microphone).

The Examiner alleges that Ruppert et al. describes "a microphone (Fig. 1#18) coupled to the at least one audio port of the infrared transmitter apparatus and operable to generate an audio signal from received sound input of the user, wherein the audio signal generated from received sound input of the user is provided to the audio port of the communication apparatus via the audio port of the infrared transmitter apparatus." However, Ruppert et al. does not describe a microphone in a transmitter apparatus that has an audio port connected to an audio port of the communication apparatus (e.g., a phone) so the audio signal generated from received sound input of the user is provided to the audio port of the communication apparatus via the audio port of the transmitter apparatus. Rather, Ruppert et al. teaches a microphone that is part of the receiver/transmitter headset and not a transmitter apparatus that is removably coupled to the communication apparatus (e.g., phone). As such, there is no communication from the microphone to the audio port of the transmitter apparatus to the audio port of the communication apparatus to which it is removably coupled. The most that Ruppert et al. teaches is the use of a microphone in a receiver/transmitter headset and/or a microphone in a base station. Ruppert et al. does not teach or suggest the use of a microphone in a transmitter apparatus that is removably

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coupled to the communication apparatus (e.g. the receiver/transmitter headset of May) as described according to the present invention.

Further, the Examiner alleges that Pieterse et al. discloses "a removably coupled transmitter (2a of Figure 3) onto the communication apparatus." However, Pieterse et al. does not teach or suggest such a removably coupled transmitter. Pieterse et al. only discloses a device that provides a means for exchanging data between the IC card and a remote terminal via a communication apparatus. It is unclear which portions of the Figure 3 that the Examiner asserts is removably coupling a transmitter to the communication apparatus. Applicants continue to assert that this element is not shown by Pieterse et al. If the Examiner can, with more specificity, show otherwise, Applicants will provide a response to such a more detailed rejection.

Neither Rybicki et al., Weatherill, nor the other references cited, do anything to cure the lack of teaching or suggestion of the missing elements.

Further, there is no suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to combine the reference teachings of all of the cited references so as to arrive at the claimed invention. Particularly, there is nothing that would motivate one skilled in the art to modify May with the teachings of the other 4 cited references so as to arrive at the present invention described in claims 17, 29, and/or 51.

For example, as described above, May describes a battery pack that is removably mounted on the back of a cellular phone. The battery pack contains an infrared port 51 for transmitting infrared information between the cellular phone and a computer (i.e., capable of sending and/or receiving infrared signals). A device interface 25 and passthru device interface 55 are connected to the infrared convertor 60 which converts electrical information to infrared information for transmission between the cellular phone and the computer via the infrared port 51. The passthru device interface 55 "allows conventional cellular phone accessories, such as a "hands free" kit, external antenna, external power, etc. to continue to work with the cellular phone 40." (See column 3, lines 1-20) The functions and configuration of the cellular phone of

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May are quite different than a transmitter that is removably coupled from a cellular phone to a receiver, so as to, for example, permit hands free communication between a communication apparatus (e.g., a phone) and the receiver, as described in the pending claims. Rather, as stated in May, passthru device interface 55 "allows conventional cellular phone accessories, such as a "hands free" kit to work with the cellular phone 40. In other words, the device interface of May does not itself provide for hands free communication, just communication of information via infrared transmission between the cellular phone and a computer.

There is no microphone in the removable battery pack of May because it is not used to receive sound input from a user (e.g., in a handsfree communication situation) and there is no rationale reason to add such a microphone thereto because May itself states that such handsfree operation is provided in other ways and not by the device of May (see column 3, lines 1-20). As such, May also would not be modified to provide an audio signal generated from received sound input of the user (e.g., someone talking hands-free in a car) to the audio port of the communication apparatus via the audio port of the transmitter apparatus.

Yet, the Examiner continues to indicate that motivation and suggestion exists between all of the cited references such that they would be combined. Applicants traverse such allegation and set forth that May, which describes an infrared communication technique between a cellular phone and a computer, would not be modified as alleged by the Examiner to include bits and pieces from **four** (4) other references that would incorporate functional components into May such as a transmitter that includes a microphone (e.g., a transmitter housing that is removably coupled from a communication apparatus (e.g., a cellular phone)) so as to, for example, permit hands free communication between a communication apparatus (e.g., a cellular phone) and a receiver as described in the pending claims. There is no rationale reason for modifying May in such a manner when May has no intention of ever providing the functionality between such a removable transmitter and an ear supported receiver. Clearly, the claimed invention is patentable over the cited references for lack of suggestion and motivation, as well as for failing to describe all the claim elements.

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For at least the above reasons, claims 17, 29, and 51 are not obvious in view of the cited references. Further, as claims 18-28, 30-34, and 52-60 depend on respective independent claims 17, 29, and 51, either directly or indirectly, they include the limitations thereof. As such, these claims are also not obvious over the cited references for the same reasons as provided above and by reason of their own limitations.

Claims 45

Claim 45 recites a receiver apparatus that includes a detection device, a speaker, demodulation circuitry, and a receiver housing enclosing the speaker and the demodulation circuitry. Further, claim 45 recites a transmitter apparatus that includes at least one audio port configured to receive an audio signal representative of received audio input from the communication apparatus via a wired connection with the audio port of the communication apparatus, modulation circuitry, and a transmitter housing enclosing at least the modulation circuitry, wherein the transmitter housing is configured to be removably coupled onto the communication apparatus.

The references cited do not teach or suggest all the limitations recited in claim 45. For example, May does not teach or suggest a transmitter housing that includes at least one audio port configured to receive an audio signal representative of received audio input from the communication apparatus (e.g., cellular phone) via a wired connection with the audio port of the communication apparatus; which transmitter housing is configured to be removably coupled to the communication apparatus. The Examiner has not specifically addressed this limitation as being shown by any of the other references. It is noted that this limitation provides for communication of information from the communication apparatus (e.g., cellular phone) to the removable transmitter, and then, for example, to the receiver self-supported by the ear of the user. The wired connection between the removable transmitter and the audio port allows the removable transmitter to use audio ports that are available, on, for example, many cellular phones to connect and receive information from the, for example, cellular phone. Neither May,

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nor any of the other cited references, describe the use of such a wired connection for connection of a removable transmitter as described in the claims. Further, there is nothing in May or any of the other references that would motivate one to connect a removable transmitter to May as described in the claims because May is clearly focused on use of a removable battery pack for obtaining information from the cellular phone to transmit information to the computer.

For at least the above reasons, claim 45 is not obvious in view of the cited references. Further, as claims 46-50 depend on respective independent claim 45, either directly or indirectly, they include the limitations thereof. As such, these claims are also not obvious over the cited references for the same reasons as provided above and by reason of their own limitations.

Claims 61

Claim 61 describes a portable receiver apparatus that includes a detection device to detect one or more pulses and generate one or more electrical signals representative of the detected pulses, a speaker, and demodulation circuitry operable to convert the one or more electrical signals representative of the detected pulses to an audio signal to power the speaker to produce a sound output. The demodulation circuitry includes pulse detection circuitry, pulse width convertor circuitry, and pulse width demodulation circuitry. A housing encloses at least the speaker and the demodulation circuitry, wherein the housing is formed to be self-supported by the ear of a user.

There is no suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to combine the reference teachings of all of the cited references so as to arrive at the claimed invention as described in claim 61. Particularly, there is nothing that would motivate one skilled in the art to modify May with the teachings of the other 4 cited references so as to arrive at the present invention.

For example, May describes a battery pack that is removably mounted on the back of a cellular phone. The battery pack contains an infrared port 51 for transmitting infrared information between the cellular phone and a computer (i.e., capable of sending and/or receiving

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infrared signals). A device interface 25 and passthru device interface 55 are connected to the infrared convertor 60 which converts electrical information to infrared information for transmission between the cellular phone and the computer via the infrared port 51. The passthru device interface 55 "allows conventional cellular phone accessories, such as a "hands free" kit, external antenna, external power, etc., to continue to work with the cellular phone 40." (See column 3, lines 1-20) The functions and configuration of the cellular phone of May are quite different than a receiver that is to be self supported by the ear of a user and configured with an appropriate demodulation scheme to receive information from a transmitter (e.g., removably coupled onto a cellular phone), so as to, for example, permit hands free communication between a phone and the receiver. Rather, May just provides for communication of information via infrared transmission between the cellular phone and a computer.

No wireless communication from the cellular phone to a receiver supported by the ear of a user is described by May. This is clearly recognized by the Examiner in the Office Action which has acknowledged that May clearly is lacking a substantial number of elements in the pending claims, including, for example, a receiver apparatus that includes a detection device, a speaker, demodulation circuitry, and a receiver housing enclosing the speaker and the demodulation circuitry; which receiver housing is formed to be self-supported by the ear of the user.

Yet, the Examiner indicates that there is motivation and suggestion to combine all of the cited references. Applicants traverse such allegation and set forth that May, which describes an infrared communication technique between a cellular phone and a computer, would not be modified as alleged by the Examiner to include bits and pieces from **four** (4) other references to add the functionality of a receiver to May that is to be self supported by the ear of a user, in addition to the use of a demodulation technique that allows such a receiver to be supported by the ear of the user so as to, for example, permit hands free communication between a cellular phone and the receiver. In other words, there is no motivation to modify May so as to attain the invention as described in the pending claim 61. For example, the configuration and functionality

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of an ear supported receiver (e.g., an infrared receiver) using the modulation techniques described therein is no easy task to design. This is particularly the case when low power is required to maintain a small battery size and lengthen the life of the battery as well in an ear supported receiver. The 5 references cited by the Examiner, and particularly when May is alleged to be modified, could not have given any person skilled in the art a reasonable expectation that a combination of such references would result in success of such a receiver.

For at least the above reasons, claim 61 is not obvious in view of the cited references. Further, as claims 62-68 depend on independent claim 61, either directly or indirectly, they include the limitations thereof. As such, these claims are also not obvious over the cited references for the same reasons as provided above and by reason of their own limitations.

Claims 69 and 75

Claims 69 and 75 recite a receiver apparatus that includes an infrared light detection device, a speaker, demodulation circuitry, and an ear retaining structure that encloses the speaker. The receiver housing is formed to be self-supported by the ear of the user, and in particular, the ear retaining structure is configured for insertion into the concha of the ear.

The references cited do not teach or suggest all the limitations recited in claims 69 and 75. For example, as acknowledged by the Examiner, May does not teach or suggest a receiver apparatus that includes a detection device, a speaker, demodulation circuitry, and a receiver housing enclosing the speaker; wherein the receiver housing is formed to be self-supported by the ear of the user. Further, clearly, May does not teach such an ear self-supported retaining structure that is configured for insertion into the concha of the ear.

The Examiner alleges that Ruppert et al. discloses a "compactable and expandable material for insertion in the concha of an ear of a user (Ruppert, Fig. 1); and a body portion extending from a first end (#35) to a second end along a body portion axis (#16), wherein the ear retaining portion extends from the first end of the body portion along an axis of predominate sound direction of the speaker that is orthogonal to the body portion axis." However, Ruppert et

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al. does not teach or suggest such elements. Rather, Ruppert et al. describes a telephone headset 10 that includes an ear speaker 20 that is engaged within the mouthpiece 16 at the opposite end from the microphone 18. An ear cushion 21 is provided so that the microphone can be supported and seated *against* the ear of the user, not for insertion in the concha of an ear of a user or even self-supported by the ear of the user. The headband 12 is provided to be adjustable for supporting the headset and permit adjustment to accommodate the head of the user as the headset 10 is supported thereby.

Neither Weatherhill, Pieterse et al., Rybicki et al., nor any of the other references cited, do anything to cure the lack of teaching or suggestion of the missing elements.

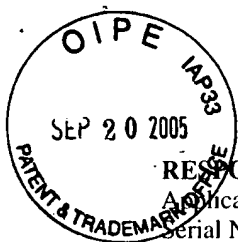
For at least the above reasons, claims 69 and 75 are not obvious in view of the cited references. Further, as claims 70-74 and 76-78 depend on respective independent claims 69 and 75, either directly or indirectly, they include the limitations thereof. As such, these claims are also not obvious over the cited references for the same reasons as provided above and by reason of their own limitations.

Claims 11, 13, 23, and 56

The Examiner further rejected claims 11, 13, 23, and 56 under 35 U.S.C. §103 as being unpatentable over May, Rybicki et al., Ruppert et al., Pieterse et al. and Weatherhill as applied to claims 1, 17, and 51 above, and in further view of Noetzel (U.S. Patent No. 4,980,926 A).

Applicants respectfully traverse the rejection.

As claims 11, 13, 23, and 56 depend on respective independent claims 1, 17, and 51, either directly or indirectly, they include the limitations thereof. As such, these claims are also not obvious over the cited references for the same reasons as provided above and by reason of their own limitations.



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Summary

It is respectfully submitted that the pending claims are in condition for allowance and notification to that effect is respectfully requested. The Examiner is invited to contact Applicants' Representatives, at the below-listed telephone number, if it is believed that prosecution of this application may be assisted thereby.

Respectfully submitted for
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CERTIFICATE UNDER 37 CFR §1.10:

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